

Little Tern Protection Scheme at Baltray, 2007 Report.

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A team consisting of Sandra McKeever, (Coordinator), Margaret Reilly, Tommy Reilly, Breffni Martin, Peter Phillips and Chris Honan organised the Little Tern Protection Scheme, Baltray in 2007. The project was run in conjunction with the NPWS and Birdwatch Ireland and with the support of Louth County Council.

Funding for materials and the JCB work was obtained from the NPWS. They also provided advice and support throughout the project.

Insurance for the project was provided by Birdwatch Ireland who also offered advice on an ongoing basis.

All work was carried out on a voluntary basis by the many volunteers.

Site

The Little Terns nest at an area known as The Haven in Baltray. They have very specific requirements for nesting and this area is suitable because of the presence of a ridge or shingle, and its proximity to the River Boyne. Little Terns require small fresh water fish to feed their young in their first few days, and for drinking and bathing. They also fish in the sea for sand eels for themselves and for their young. The topography of the beach at the Haven changes dramatically every year as a result of winter storms, and also the spread of vegetation.

The area suitable for nesting was considerably bigger than last year. The area was observed for a week after the little terns began prospecting to see which areas they were favouring. They tended to favour the southern end of the shingle, so this section was chosen as the area that would be fenced off. This area was approximately 300m long and 50m wide. The topography of the chosen area changed significantly a number of times over the nesting period following spring tides and strong winds, but remained the nesting stronghold. The specific nest sites chosen didn't have a particular pattern, ie they nested on both high and low areas. It was clear from the outset that some of these nests would be in danger if we experienced spring tides along with stormy conditions.

Site Access

The land owner provided us with keys to the gates through which the beach was accessed. This was invaluable as it is quite a distance to the beach and the parking area is not secure. As we had no storage facilities at the beach, equipment had to be transported there and taken home every day.

Weather.

The weather was exceptionally poor for almost all of the project period, with rainy and dull conditions along with unseasonably low temperatures and some stormy weather. This not only made difficulties for the Little Terns who had to spend much more time on the nest after hatching to keep the chicks warm but it also made wardening unpleasant. Thankfully the band of committed volunteers saw the project through without complaint. The provision of a small tent was a huge help in the inclement weather.

Fencing

The first sighting of Little Terns in Baltray was on the 16th April. Notices were erected at all approaches to the beach in order to alert the public to the upcoming project. Following a period of observation to ascertain the most likely nesting area, a string cordon was erected on the 5th May. 5' wooden posts were used along with blue baler twine. We attached coloured streamers at intervals to make it more visible to the public.

On the 9th May, a JCB dug a trench around the area to be enclosed. Volunteers put up 5' posts in the trench and 4' x 1" chicken wire was stapled to it. The wire was buried approximately 6" in the trench and curved outwards to deter burrowing animals. A few days later, each wooden post was numbered using indelible marker.

On the 10th May electric fencing was put up using plastic electric fence posts which were easily inserted into the sand immediately outside the chicken wire. As these posts were very likely to be knocked or blown down, we attached them to the wooden posts at intervals to strengthen the fencing. Four rows of 6 strand electric fence (poly) twine were attached to these posts. The battery fencer was securely placed in a waterproof bag and buried beneath the sand. An over-ground switch was discretely wired from the fencer to one of the wooden posts and this was used for turning it on and off. As we could not get an earth on the beach, we set up the first and third row of electric fencing wire to be an earth and the other two rows as live. We also used the chicken wire as an earth. This meant that a shock would be received if both an earth and live were touched at the same time. The electric fence was turned on at night only.

Having noticed that the wooden posts were being used as perches by hooded crows and kestrels, we later attached plastic bottles to them. The plastic bottles had been cut in half and slits cut into them. Consequently if a bird attempted to land, the bottles would not support their weight and this worked as a very effective deterrent.

Following storm damage, bull wire was used to help repair the chicken wire fencing. It was attached to the top of the wooden posts and the chicken wire was tied to it at intervals.

Chick Shelters had been prepared using 4" and 6" wavin piping which had been covered with a light coating of concrete and coated in sand. These were placed in the enclosed nesting area (enclosure) at intervals. They were partly buried with sand filling the bottom part of the pipe to secure them and to create the appropriate shelter size i.e. to exclude predators.

Out of the 48 nesting attempts only 2 were outside the enclosure.

When the first chicks became mobile most of them moved to the north end of the beach outside the enclosure. We extended the cordon, put up more signs, and erected extra electric fencing a further **200m** along the beach to protect them. The chicks moved around between the two areas.

The fencing was taken down on 19th August when the project was complete. The damaged wire was brought to the local landfill. All materials suitable for re-using are stored at some of our houses.

Signage.

Signs were prepared, printed, laminated and mounted on corrieboard by ourselves for the most part. We used some old Birdwatch Ireland signs as well. To cater for non English speaking people, some signs were designed using symbols and pictures.

These were erected at all entrances to the area, on the northern end of the beach and all around the nesting enclosure. At the end of the project, when the fencing had been dismantled, new signs were prepared and erected giving the final number of fledged Little Terns and thanking people for their co-operation. These home prepared signs had faded considerably by the end of the season and would not be usable next year.

Two large 1m x 1m full colour interpretative signs were erected, one at the end of Baltray village at the approach to the Haven and the second further on at the main parking area. These signs which were professionally printed are intact and will be used again in 2008.

Losses.

The Little Terns suffered the greatest losses from Hooded Crows and from storms.

The first 14 nests, with 24 eggs were predated by Hooded Crows in one day. 10 nests with 23 eggs were washed away by the storms.

The only other loss suffered was the predation of the first 3 chicks by an otter. There were 4 eggs in 3 nests that were either abandoned or infertile.

Predators & Threats.

Hooded Crows:- there were large numbers of hooded crows around the nesting area. They proved to be the first and most deadly predator, taking 24 eggs in a single day (25th May). They also predated all of the Ringed Plover nests in the area at that time. This was a devastating blow to the project and a decision was made to have wardening from first light to nightfall, starting on the 1st June.

We also put a predator control operation in place with the help of experienced hunters and we bought a Larsen trap. The crows continued to patrol the area but seemed to understand that they would be harassed by the volunteers if they approached the enclosure. So long as there was a volunteer presence on the beach, they kept away. These two combined efforts ensured that there was no further predation by the hooded crows.

Storms:- Stormy weather conditions at the time of a spring tide was the second greatest threat to the Little Tern colony. The chicken wire fencing was erected above the high water mark on the beach but the spring tides along with strong winds caused damage to the fencing, mainly on the east side but also on the north and south ends. The first damage happened on the 18th & 19th of May when part of the chicken wire and electric fencing was badly damaged, a second and much worse storm on the 14th & 15th June not only caused serious damage to the fencing, but also washed away 10 Little Tern nests with a loss of 23 eggs. Further damage to the fencing happened in July and August.

Measures were taken to try to save nests from the storms. A week before the June spring tide was due, we filled sandbags and formed them into a platform beside the most vulnerable nest, covering them with sand and shingle. We arranged some ornamentation around the nest so that if it became necessary to relocate the nest onto the sandbag platform then it would be easier to recreate its surroundings. When the storms came we relocated the nest onto the platform. The bird relocated onto the nest without hesitation. The nest survived the first high tide of the storms but unfortunately it was lost in the overnight tide. We moved the rest of threatened nests also, but the area washed away was so extensive we weren't able to move them far enough to save them - it is recommended that nests be moved not more than 1 metre at a time. While the relocation of nests didn't save them in this instance, any nests that were relocated were accepted by the birds, so we know this can be done successfully.

Otters:- On the 24th June an otter was seen in the enclosure and the first hatched nest with 3 chicks was lost to it. There was a high tide that morning and the otter appeared to have come in from that tide and entered through damaged fencing. Otters were not on our list of potential predators and while we expected threats from the air and from the land, we certainly did not expect one to emerge from the sea. This we feel is an unusual occurrence and no other otter was seen during the project.

Dogs:- Almost all dogs were with their owners and we approached the owners in a friendly manner, explained about the project and asked that the dogs be kept on leads when in the general area and to avoid the enclosed area of the beach altogether. There was a huge amount of co-operation on this and most dog owners used a different route for the entire project. The volunteer presence was vital as (in spite of the poor weather) we needed to

approach dog owners on a daily basis as they either emerged on to the beach at the project entrance or walked up the beach from the Termonfeckin area. We noticed that when the volunteer warden was seen monitoring all movements in the area, most walkers with and without dogs then tended to veer away from the nesting area.

Walkers:- We had a huge amount of co-operation from walkers, many of whom changed their normal routes to completely avoid the area. Again the volunteer presence was essential and much time was spent in steering walkers away from the area. In spite of all the signage, people would approach the enclosure and we had a few people who actually attempted to climb over the fencing. It would be fair to say that over 90% of people co-operated when approached by the volunteers. There were only a handful of walkers who refused to avoid the area. In particular that was a person who jogged up the beach on a daily basis and only after repeated requests did he stay outside the cordon.

Foxes:- As the Kilcoole Little Tern project had experienced problems with foxes, we were very watchful for any traces of this predator, conscious that an entire colony of chicks could be wiped out in one night. We saw fox tracks on the outside of the fencing on a regular basis but fortunately they did not gain access to the enclosure.

Stoats:- There was a family of stoats on the golf course at Baltray and one was observed emerging on to the beach at the Little Tern enclosure. There were no further sightings.

Raptors:- Kestrels were seen in the area but the human presence most likely kept them at bay.

Peregrine Falcons hunted on the tide line daily, but only a juvenile proved problematic. Late into the project, it was regularly seen flying low over the enclosure and on one occasion, it took an adult Little Tern that was attempting to chase it off.

A Sparrowhawk frequented the area but didn't appear to attempt to predate the Little Terns.

Rooks:- As they were chased off by the volunteers if they came close to the enclosure, we had no real problems with rooks.

Gulls:- The Little Terns regarded the gulls as a major threat and chased and harassed them relentlessly. From our observations we didn't see gulls actually threatening the colony, they seemed to simply fly over the enclosure en route from the beach to the river. They had been seen predated the Little Tern chicks in previous years. The gulls seemed to have little fear of humans and our chasing them seemed ineffective. However daily, at high tide we moved the loafing gulls northwards up the beach to remove that threat.

Other Predators:- No other predators were seen.

Wardening.

Part time wardening was in operation from the 9th May, when the fence was erected. Following the predation by hooded crows, we had to arrange wardening from first light to nightfall every day without any gaps, and this continued until the end of the project when all the Little Tern chicks had fledged. This was an enormous challenge and the passion, dedication and commitment of these volunteers cannot be understated. These people gave

up their time, day in day out, week in week out, without complaint in often atrocious weather conditions, they were vital to the success of the project.

Because of the bad weather, we bought a small tent type shelter for the volunteers, this was a huge and well appreciated improvement to the wardening conditions. The shelter was moved a number of times so that it would be close to the area most highly populated with Little Terns. It was always positioned so that the volunteer on duty could clearly observe the entire area while sheltering inside at the same time. Hooded crows watched the area from a distance and were extremely opportunistic, we learned that they could judge our distance from the enclosure and they would approach at the slightest opportunity. It was clear to us that a presence was needed on the beach in close proximity to the enclosure so that immediate action could be taken at any moment i.e. that the volunteers were within striking distance of any predator that appeared.

Volunteers liaised with the public, gave updates on the project, kept walkers and their dogs away and watched out for and chased off predators such as hooded crows and rooks. Most volunteers were not involved in monitoring the nesting, they stayed outside the cordon, only entering to chase predators and never entered the enclosure. Wardening finished on 15th August. All the chicks were flying by that time and were able to escape ground predators, so the wardening work was complete.

Monitoring.

It was important to ascertain the losses as well as the successes and this could only be done by knowing how many eggs were laid, how many were hatched, how many were lost and the reasons for those losses. The nests were therefore checked daily during the time that eggs were being laid. Each newly discovered nest was marked by placing an inconspicuously numbered stone approximately 1 metre in front of it. We also used the numbers on the wooden posts to create co-ordinates for each nest. When hatching started, the nests were again checked daily until hatching was complete but disturbance was kept to a minimum. We observed nests daily to ensure that all nests were still being tended. Monitoring the numbers of chicks was much more difficult as they moved around on the beach and were hidden much of the time and were therefore very difficult to locate. To get an accurate count of chicks it would take at least two volunteers two hours or more, watching the parents flying in with food. This needed to be done from a number of different positions around the enclosure. The best time to carry out this job was close to a full tide. This work was carried out a small number of the organising team.

Numbers.

Between the time that the first LittleTern was seen on the 16th April and when nesting started on the 22nd May, numbers fluctuated. In the earlier days we saw around 30 – 40 during the day, but at dusk the figures would rise dramatically to well over 100. It was impossible to get accurate counts as it tended to be too dark by the time they had all settled. From comparing records with BWI it was apparent that a floating group of 50 to 70 Little Terns

moved between Baltray and Kilcoole on a daily basis at the beginning of the season. As the season progressed the numbers settled down, but after any major losses, such as the losses at both Baltray and Kilcoole in mid June, this pattern would emerge again. Early on the numbers of birds engaging in courtship and prospecting was high, but when the hooded crows predated the first eggs the numbers reduced. These transient birds didn't settle at Baltray and the final number of nesting birds was 42, i.e. 21 pairs.

This was around the same number of birds that was observed there last year, and this would seem to indicate that this is the base figure that attempts to nest there regularly. Some of the birds were ringed but not a significant number.

The highest count recorded was 150 on 24th May.

Nesting.

The first nests were discovered on 22nd May with 2 eggs in them, which would indicate that nesting began on 19th May or before as eggs are usually laid every second day.

By the 24th of May there were 14 nests containing 24 eggs but these were all predated by hooded crows on 25th May.

The next new nests were discovered on 3rd June with 2 eggs in them, indicating that nesting could have begun on 1st June. The birds seemed to lay eggs in quicker succession on their second or third nesting attempt, but never laid more than 2 eggs after their first attempt.

By 12th June there were 20 nests with 46 eggs. On 15th June, 3 off these nests with 8 eggs were lost in the storms, and on 16th June a further 7 nests containing 15 eggs were lost in the storms. 1 nest containing 1 egg was abandoned after the storms. As a result, by 17th June only 9 nests remained, containing 22 eggs.

On 23rd June the first chicks hatched, by that time there were 15 nests with 31 eggs. On 24th June the first 3 chicks were predated by an otter.

Hatching continued over the next week and by 30th June there were 19 chicks hatched.

Nesting continued into the season with the last nest being discovered in mid July.

The last chick hatched on 1st August. By then we had 41 chicks hatched from 21 nests (not including the predated chicks).

The chicks began to fledge from the middle of July onwards. We were able to ascertain that all 41 chicks fledged from careful monitoring. The main body of birds left Baltray in the first week of August, but the parents of the youngest chicks stayed and tended them until they were old enough to fledge, which was well into the month.

Notes & Observations:

As this was the first year of this project, it was to be expected that it would be a learning curve for all concerned.

Change in Little Tern Behaviour when Hatching commenced.

The Little Terns became much more aggressive when their chicks had hatched and were less tolerant. It became necessary to keep a greater distance from the enclosure. Some walkers tended to walk as close to the cordon and fencing as possible and as a result the cordoned off area will need to be extended significantly in future years.

When hatching had taken place, repairs to the fencing were almost impossible because of the level of disturbance to the Little Terns and the danger of walking on the chicks or on a nest. The repairs were carried out by a small group and as most of us were working full time, most repairs could only take place in the evenings and at week-ends.

Importance of Preserving the First Nests and Eggs.

We cannot afford to lose the first nests for a couple of reasons.

The egg numbers tend to be higher in the first clutch i.e. 2 to 3 eggs, whereas there are generally less eggs laid in subsequent attempts i.e. 1 to 2.

If chicks fledge from the first laid clutch, they have longer to develop thereby giving them a much stronger chance of successful migration.

Predator Control.

Predator control needed to have been in place well in advance of the Little Tern breeding season, probably as early as February. The predator types and numbers would have needed to be assessed and control measures put in place to ensure that predators were well controlled before the nesting season began. Had this been done, we should not have lost the first batch of eggs to the Hooded Crows.

Chick Movements & Protection.

The Little Tern chicks tended to move from the enclosure towards the sea as soon as they became mobile. At this stage the eastern side of the fencing had been damaged by the storms and spring tides. This caused us some problems in that it was very difficult to give protection to the tern chicks that had ventured outside the enclosure. By and large they did remain within the electric fence but we had no way of checking this at night as wardening ceased at dusk. We felt that it was likely that foxes had encountered the enclosure before the chicks started to leave it and would have experienced the electric fence which deterred them from returning. While the electric fence successfully deterred the foxes this year, next year they are sure to return and possibly become more persistent in their attempts to breach our defences. Where the chicken wire fencing was intact, the chicks spent much time trying to squeeze out through the wire, sometimes becoming stuck. This makes us think that the instinct to move out towards the sea is very strong and that it would be wrong to restrict them if this is the case.

Fencing Issues.

The outer eastern fencing caused us much trouble because of the damage from the summer storms. Repairing the existing fence was slow and tedious, partly because:

1. only a small number of volunteers were available to carry out this work
2. avoiding disturbance to the Little Terns was essential, therefore we could only work for short periods of time, maximum 15 minutes with at least 30 minutes withdrawal time
3. the wire was damaged and partly buried and the electric fence wire was very tangled.
4. most of us worked full time which meant that the bulk of the repairs had to be carried out in the evenings and at week-ends.

In retrospect, the Little Terns would have been better served had we abandoned the damaged fencing for the time being and erecting a more suitable fence that would have protected them for the remainder of the project.

Expenditure.

It was difficult to accurately plan ahead as we found that as we went along, unexpected problems arose that needed immediate attention. When something was needed, it tended to be needed immediately and we found ourselves out of pocket quite often and have spent in excess of €500 of our own money. Setting up accounts with suppliers was slow and often we just could not wait and had to buy the goods ourselves. Quite a variety of account types were required, from stationery and printing to agricultural hardware, builder supplier, engineering supplies etc so quite a few accounts had to be set up. What would have worked well for us would have been to either have a fund that we could work from or else have had the option of submitting receipts so that we would be refunded money that we had spent ourselves.

Human Resources.

The volunteers were exceptionally generous with giving their time to the project, but the drain on their time was huge and it would be very difficult if not impossible to repeat this next year. It was noticeable that people were somewhat tired and very relieved by the time the project came to an end. The project needed 24 hour wardening but this was not possible as the volunteers could not stretch to cover this.

Improved shelter on the beach is also essential for the person on duty.

Storage.

Storage at the project site is essential. Work was ongoing day in day out and all materials had to be transported there each day and taken home again.

Our cars were permanently filled with paling posts, hammers, crow bar, sledge hammers, nails, screws, shovels, spades, plastic bottles, fence tester, staples, pliers, etc, etc, etc.

Storage would also have allowed us to have a free standing notice board to inform the public about the project status.

Acknowledgements.

Funding from the NPWS was greatly appreciated and much credit is due to them for this and the manner and promptness with which it was forthcoming. Thanks are due to Pdraig Comerford, Maurice Eakin, and to Kieran Buckley whose advice and support was invaluable.

Birdwatch Ireland kindly agreed to support the project and provided insurance cover along with support and advice throughout. Thanks are due to Oran O'Sullivan, Steve Newton and Helen Boland.

Thanks to the Hartigan family for giving us access to the beach through their land - Anne Hartigan who owns the land and her son Dominic who liased with us. We were facilitated in every way possible and they couldn't have been more helpful.

Andrew Kelly volunteered to design the large interpretative signs and did a fantastic job. These signs were very effective and attracted much praise.

A huge thanks is due to all the volunteers who gave their time over the few months, (in alphabetical order):

Carla Byrne, Kieran Campbell, Paddy Carolan, Brendan Carroll, Kevin Cassidy, Billy Clarke, Maurice Conaghy, Mick Conaghy, Mark Dearey, Nessa Delaney, Ashley Dowd, Sean Fagan & Frances, Enda Flynn, Dominic Hartigan, Roy Hayes, Kevin Healy, Irene Hill, Cathal Johnson, Len Johnson, Mark Johnson, Patricia Johnson, Andrew Kelly, Alan Kerr, Gary Kerrigan, Niamh Kiernan, Larry Lenehan, Patrick Levins, Joe Martin, Eimear McAdam, Jennifer McCrea, Leo McDonald, Maeve McGlew, Paddy McGlew, Susan McKeever, Liam McNally, Ann Nawn, Martin O'Brien, Eric O'Neill, Gerry O'Neill, John Joe Reilly, Irene Reynolds, Peter Rooney, Rosemary Seaman & Brendan, Sean Smith, Gerry Somerville, Neil Traynor, Aine Walsh, and Derek Watters plus the Organising Team who are listed on page 1.

A special mention for:

Maurice Conaghy and Sean Smith who between them covered most dawn shifts.

Maurice and Mick Conaghy who looked after the predator control and whose help and expertise was vital to the success of the project.

Malta Services, Drogheda, a day service for adults with intellectual disabilities. They provided a team of supervised volunteers twice a week.

Kieran Buckley who was at the end of a telephone 24 hours a day when needed with support and advice.